



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION III  
1650 Arch Street  
Philadelphia, Pennsylvania 19103-2029**

**03 MAY 2011**

Mr. Scott A. Hans, Chief  
Regulatory Branch  
U.S. Army Corps of Engineers  
Pittsburg District  
1000 Liberty Avenue, Suite 2100  
Pittsburgh, Pennsylvania 15222

Re: CELRP-OP-F 2009-1656; American Mountaineer Deep Mine; Harrison County;  
West Virginia

Dear Mr. Hans:

The U.S. Environmental Protection Agency (EPA or Agency) has reviewed the Public Notice for the proposed American Mountaineer Deep Mine located approximately 0.5 miles west of Brown, Harrison County, West Virginia. EPA's review and comments are based upon the Public Notice issued March 21, 2011, the permit application, supplemental documentation including the proposed Compensatory Mitigation Plan (CMP), and Environmental Information Document (EID).

EPA's review is intended to help ensure that the proposed project will meet the requirements of the Clean Water Act (CWA). The Section 404(b)(1) Guidelines (40 C.F.R. Part 230) provide the substantive environmental criteria against which this application must be considered. Fundamental to the Guidelines is the premise that no discharge of dredged or fill material may be permitted if: (1) it causes or contributes, after consideration of disposal site dilution and dispersion, to violations of any applicable state water quality standard; (2) a practicable alternative to the proposed discharge exists that would have a less adverse impact on the aquatic ecosystem; or (3) the discharge would cause or contribute to significant degradation of waters of the United States.

The Pittsburgh coal seam has a weighted average depth of overburden of approximately 817 feet at the proposed location. The Pittsburgh coal seam (roughly 7 feet thick) in the project area contains approximately 64.1 million tons of coal to be mined over a 15 year period. The overall project (191 acre site) includes: a preparation plant, load out facilities, stockpiles, haul roads, shaft/slope, and a coarse and fine coal refuse facilities. The project proposal involves direct impacts to 13,738 linear feet (lf) of Mill Run and branches, Jake Run, and unnamed tributaries (UNT) of Jake Run and 2.07 acres of emergent wetlands. The project utilizes room and pillar and longwall mining methods resulting in the construction of two valley fills, a shaft site pad, a preparation site pad, the construction of the refuse facility, eight drainage control structures (ponds), three in-stream sediment control structures and the use of riprap and matting.



These activities will result in impacts to 3,451 lf of perennial stream, 8,883 lf of intermittent stream, 1,404 lf of ephemeral stream, and 2.07 acres of emergent wetland. The two constructed valley fills would impact the upper reaches of Mill Run.

The project involves impacts within Mill Run, Jake's Run and associated branches and UNT's located within the Hydrologic Unit Code (HUC) 8 West Fork Sub-basin. Mill Run and Jake's Run are tributaries to Little Tenmile Creek which drains into Tenmile Creek and finally into the West Fork River. The benthic macroinvertebrate sampling summary provided West Virginia Stream Condition Index (WVSCI) scores ranging on-site from 81.84-90.17 indicating that the resources on-site are of very good quality and represent relatively unimpacted areas within a larger degraded system. These on-site stream resources may be vital components of the aquatic ecosystem and provide fresh, clean water dilution to the impaired receiving stream, Little Tenmile Creek. The West Fork River, Tenmile Creek, and Little Tenmile Creek are all listed on the West Virginia 2010 CWA Section 303(d) list as being biologically impaired, and have total maximum daily loads (TMDLs) for iron. In addition, the West Fork River has TMDLs for bacteria and polychlorinated biphenyls (PCBs). The applicant has provided baseline water chemistry data indicating that the on-site proposed impacted streams have specific conductance values ranging from 68  $\mu\text{S}/\text{cm}$  (JR-US) to 227  $\mu\text{S}/\text{cm}$  (MR-T2).

The CWA Section 404(b)(1) Guidelines provide that a permit be allowed for the least environmentally damaging practicable alternative (LEDPA), and that upland alternatives are presumed to exist for non-water dependant activities that do not require the use of the aquatic ecosystem, including jurisdictional wetlands. The applicant's stated basic project purpose is bituminous coal removal, a non-water dependent activity. It involves a coal preparation plant, a coal load-out facility, and a coal refuse facility. The preferred mining alternative estimates the extraction and placement of 3,026,844 cubic yards of overburden material. According to the EID, the applicant has described a wide range of alternatives available including: mining extraction methods; excess spoil alternatives; alternatives for the location of the preparation plant, refuse facilities, and available transportation alternatives. EPA commends the applicant for their work to analyze alternatives that would completely avoid impacts to jurisdictional waters. However, EPA has provided additional comments within the enclosure that should be addressed to determine whether additional alternatives may be available to further avoid and minimize the overall impacts of the project or whether the preferred alternative truly represents the LEDPA. Consistent with the Guidelines, no discharge of dredged or fill material should be permitted until all appropriate steps have been taken to minimize the potential adverse impacts to the aquatic ecosystem to the maximum extent practicable.

As stated above, the Section 404(b)(1) Guidelines prohibit the discharge of dredged and/or fill material that will cause or contribute to significant degradation of the aquatic ecosystem. Given the nature and extent of the impacts, and based on the available information, EPA is concerned that the project may result in significant degradation of the aquatic ecosystem and impacts to water quality as a result of surface activities associated with this project. The best information available to the Agency, including published, peer-reviewed studies, indicate that landscape mining activities (including the construction of valley fills) are strongly correlated with ionic strength (increased conductivity) in the Central Appalachian stream networks.



Increased conductivity generally degrades the native aquatic community, is persistent over time, and cannot be easily mitigated after-the-fact or removed from stream channels.

EPA recognizes that surface mines and subsurface mines of similar recoverable coal tonnage may differ in size and complexity. However, it is important for the applicant to evaluate the extent to which the surface activities proposed for this project would be likely to have similar effects as described above, in particular through construction of the project's two valley fills. While the proposed project is a subsurface mine, the nature and extent of the proposed surface impacts leads to our concern that downstream water quality problems may likely occur. It is unclear based on the documentation provided if any operational and/or design elements have been incorporated into the project to address these concerns. Where such concerns are likely, the applicant should provide detailed information that demonstrates actions are being taken on-site to prevent potential water quality impacts. EPA recommends that the applicant develop robust monitoring and remedial action plans that include appropriate established water quality thresholds which trigger appropriate responses for remedial action. As set forth in more detail in the enclosure, EPA recommends that the applicant evaluate the extent to which the project is likely to contribute to water quality impacts. Where such impacts are likely, EPA would generally recommend that the adaptive remedial action plan include detailed discussion of a conductivity trigger of 300  $\mu\text{S}/\text{cm}$  and a threshold of 500  $\mu\text{S}/\text{cm}$  during the project's lifetime.

Under Section 230.10(d) of the Guidelines, compensatory mitigation is required for unavoidable impacts. As indicated above, the project proposal involves direct impacts to 13,738 lf of Mill Run and branches, Jake Run, UNT of Jake Run and 2.07 acres of emergent wetlands. The applicant has proposed to compensate for the impacts by: re-establishing 9,149 lf of stream channel (3,451 lf of perennial, 5,081 lf of intermittent, and 787 lf of ephemeral) upon project completion (12-15 years after project initiation); replacing herbaceous marsh wetlands at a 2:1 ratio plus additional areas to offset temporal losses; providing additional permittee-responsible mitigation credits through a cooperative effort with the WVDEP Nonpoint Source Program; and compensating for the permanent losses of 4,589 lf of streams (3,802 lf of intermittent, 787 lf of ephemeral) through payment into the West Virginia in-lieu fee program. All of the mitigation will take place within the permitted area with exception of the payment into the in-lieu fee compensating for the permanent losses.

The applicant is currently proposing to pay into the WV In-Lieu Fee program as compensation for the unavoidable impacts associated with the proposal. Compensatory mitigation for unavoidable impacts should occur within the 12-digit HUC and at a minimum within the 8-digit HUC. We are unaware of any identified in-lieu fee projects within the West Fork Sub-Basin and accordingly the Corps and the applicant should continue to explore permittee-responsible mitigation within the 12-digit HUC, or identify for EPA approved in-lieu fee projects within the HUC 8. Any approved mitigation must ensure the replacement of the lost functions and services of the impacted streams and incorporate performance standards which include observable or measureable physical (including hydrological), chemical, and biological measures to determine if the compensatory mitigation project meets its objectives. EPA encourages that the mitigation that is not dependent upon project completion be in place prior to the discharge of fill material.



Streams are difficult resources to replace, and every effort to avoid and minimize impacts should be exhausted. Given the difficulty in replacing stream resources, EPA recommends that the project proponents provide sufficient additional information that describes how they will ensure appropriate functional replacement of the streams to be impacted. Without detailed information supporting the proposed non point source passive treatment systems and design plans, it is uncertain that the compensation will ensure appropriate functional replacement. Mill Run and Jake Run are key sources for dilution for the impairment within the subwatershed (HUC-12). EPA also recommends that the CMP propose physical, biological, and chemical, observable and measurable performance standards and success criteria.

The Section 404(b)(1) Guidelines require consideration of the project's contribution to cumulative impacts. Due to past, present, and proposed future activities within the subwatershed (HUC-12) EPA recommends that the Corps conduct a thorough cumulative effects analysis that includes a detailed presentation of the past, present, and reasonably foreseeable activities. Cumulative impacts can result from individually minor, but collectively significant, actions over time. We strongly suggest an approach that would manage and link proposed projects to overall water quality and habitat improvement on a sub-basin and subwatershed basis. Environmental justice (EJ) issues should also be identified, discussed, and resolved.

In conclusion, based on the information provided, EPA believes that the project as currently proposed may not comply with the Section 404(b)(1) Guidelines, that the project may adversely affect water quality and result in significant degradation to the aquatic ecosystem, and that efforts need to be considered to address such impacts. Streams on site are of very good quality and provide fresh water dilution to an impaired aquatic system, and every effort should be made to avoid impacts to these aquatic resources. In light of these concerns, EPA believes that the project, as proposed, may result in substantial and unacceptable impacts to aquatic resources of national importance, as covered in Part IV, paragraph 3(a), of the 1992 CWA Section 404(q) Memorandum of Agreement between the Environmental Protection Agency and the Department of the Army. In addition, we believe that the size and scope of this project are such that it is essential for EPA to receive and review the NEPA environmental assessment produced for this federal action. We would appreciate the opportunity to discuss with you the need for further NEPA evaluation as well as our other concerns with the permit application. Please find enclosed additional project-specific technical comments.

Thank you for the opportunity to provide comments on the proposed American Mountaineer Deep Mine. Should you have any questions please feel free to contact Mr. Greg Gies, Physical Scientist, of my staff at 215-814-2764 or by email at [gies.gregory@epa.gov](mailto:gies.gregory@epa.gov).

Sincerely,

  
John R. Pomponio, Director  
Environmental Assessment and Innovation Division

Enclosure



## **ENCLOSURE**

EPA Comments for CELRP-OP-F 2009-1656; American Mountaineer Deep Mine

### **Alternatives Analysis**

- It is unclear based on the documentation provided if the preferred alternative is in fact the least environmentally damaging practicable alternative. To assist in this regard, it would be helpful to review the applicant's evaluation and comparison of potential alternatives, including off-site and other disposal alternatives, clearly documenting the practicability of each.
- The alternatives analysis should take into consideration the following: quantification of impacts, potential for significant degradation, available technology and design, including preparation plant processing technology, construction of valley fills, location and number of valley fills, refuse facilities and storage area that will protect the physical, chemical, and biological integrity of the aquatic ecosystem.
- As indicated in the previous bullet, the alternatives analysis should include a thorough analysis of alternatives available and practicable in light of cost and existing technology for the processing of the coal and the disposal of the coal waste, or refuse. Alternatives should include a discussion of alternative technologies to coal processing that may be available which reduce the amount of waste created as well as how that waste can be disposed with special consideration of alternatives which avoid disposal of waste into waters of the U.S.
- The applicant should consider the use of already existing coal processing plants and permitted refuse disposal sites. Please describe if this alternative was considered.
- The need for and placement of the proposed valley fills needs to be included in the alternatives analysis. Consideration of location, size, quantity, and design elements should be included.
- What are the projected quantified impacts for each of the considered alternatives for the slurry impoundment as indicated in the "Alternatives and Preliminary Site Plan" Map within the initial application submission? Please describe why each alternative was eliminated as the preferred alternative. More clearly explain how the preferred alternative is the least environmentally damaging practicable alternative while protecting the physical, chemical, and biological integrity of the aquatic ecosystem. This discussion should describe why the shaft and slope are located where they are in the proposal. It is our understanding that the location of these facilities may have an effect on the location of the other attendant facilities such as the preparation plant and refuse disposal locations.
- The EID did not discuss alternatives in construction techniques or best management practices to protect water quality and prevent significant degradation of the aquatic ecosystem. The applicant should provide documentation and demonstrate up front, based on proposed waste and excess spoil (valley fill) disposal design, best management practices, or other actions, that the project will not cause or contribute to an excursion from applicable water quality standards or to significant degradation.



## **Water Quality**

- Based on the current scientific information available to EPA, surface coal mining activities are predicted to result in increased conductivity. In wadeable streams conductivity values below 300  $\mu\text{S}/\text{cm}$  generally are not likely to cause water quality violations or significant degradation of the aquatic ecosystem. Levels of conductivity above 500  $\mu\text{S}/\text{cm}$  generally are likely to be associated with adverse impacts that could cause or contribute to significant degradation. The applicant should evaluate the extent to which the surface activities of the proposed project, such as construction of two valley fills, would be likely to lead to such water quality concerns. If it is determined that the project would not lead to these concerns, or that these values are not applicable to this site, the applicant should provide site-specific documentation supporting why not, as well as what recommended values would be more appropriate.
- EPA believes that a comprehensive monitoring plan is needed for this project to collect data and track water quality and benthic changes prior to, during and post-mining. The plan should include water quality and biological monitoring in streams downstream of the project (but upstream of intervening tributaries) during and post operation/construction. At a minimum, EPA believes that the plan should monitor for specific conductivity, total dissolved solids, sulfates, bicarbonates, chlorides, pH, selenium, magnesium, potassium, calcium, and sodium. The plan should also include biological monitoring consistent with applicable WVDEP protocols and reporting of taxa at both the family and genus levels.
- An adaptive remedial action plan should be developed to address increases in conductivity and any other parameters of concern to be implemented if water quality protection values are exceeded. The adaptive management plan (AMP) should include multiple trigger points set at levels more protective than necessary to prevent significant degradation. When such triggers are exceeded, implementation of the adaptive remedial action plan should be required to ensure that action is taken before significant degradation occurs.
- For surface activities that are likely to result in water quality concerns, and in the absence of site-specific information that would demonstrate that the following levels are not applicable to the site, EPA recommends that 300  $\mu\text{S}/\text{cm}$  be used as the first trigger for implementation of the AMP based on best-available science. At this trigger level, a previously-identified set of actions would be employed with the objective to prevent conductivity values from rising further and to maintain levels below 500  $\mu\text{S}/\text{cm}$  or, for project area streams with baseline conductivity levels already exceeding 500  $\mu\text{S}/\text{cm}$ , at a minimum, maintaining current baseline values.
- EPA recommends that these conductivity triggers, or other appropriate values, be specifically utilized as special conditions in the permit.

## **Compensatory Mitigation**

- Establishment/Re-establishment of “permanent 12-15 year” stream sections: EPA believes that fills in-place for 12-15 years are not temporary impacts. Biogeochemical cycling functions, aquatic life, natural stream geomorphology, and overall water quality



will likely be impaired in these stream segments as a result of the fill duration. Despite the proposed design option intending to preserve the previously existing stream channel and substrate to the maximum extent practicable, the fill and operations will likely result in compaction of the underlying soils and substrate in the channel, which may alter the groundwater influence on the re-established stream. Groundwater duration and flow is essential for re-establishment of these stream segments to mimic the pre-impact physical conditions, but also water quality and benthic community should be incorporated into the re-establishment design. EPA recommends that the applicant provide financial assurances to ensure that the establishment/re-establishment will mimic pre-impact stream conditions (including water quality and benthic community as well as physical features and hydrology) and thoroughly discuss the monitoring plan and adaptive management plan, including the triggers that would initiate “re-design of mitigation”.

- Providing additional permittee-responsible mitigation credits through a cooperative effort with the WVDEP Nonpoint Source (NPS) Program: This proposal is intended to address the temporal impacts that are a result of the proposed project. EPA believes that the passive system treatment of the alkaline mine drainage discharges to Bennett’s Run may be very beneficial to the degraded water quality conditions of Bennett’s Run and Little Tenmile Creek; however insufficient information has been provided to evaluate whether it will replace lost functions due to impacts of valleyfills.
  - One of the objectives for the Nonpoint Source mitigation proposal is to reduce the iron loading within in an identified stream segment. However, without baseline data, it is difficult to ascertain if the objective is met. Therefore, baseline data should be provided for the impaired stream reaches/discharges identified for part of the mitigation proposal and should include at a minimum: metals, acidity, alkalinity, conductivity, and salts.
  - When will the proposed work associated with the Nonpoint Source Program be initiated? It is not fully clear within the provided documentation.
  - EPA recommends that the applicant provide and thoroughly discuss the design, monitoring plan, and adaptive management plan to include triggers that would initiate “re-design of mitigation” or maintenance.
  - A monitoring period should continue through construction and post construction for a sufficient period to ensure that the treatment is producing the desired outcomes of mitigating for temporal losses.
- Performance Standards: The applicant should utilize direct measurement of the hydrologic regime for re-established streams. The Corps and the applicant may want to consider the utilization of the hydrogeomorphic approach for assessing the high gradient headwater streams. Performance standards should include biological and chemical criteria, in addition to physical criteria, within the performance standards.
- Site Protection: EPA suggests that all mitigation areas be placed under conservation easement.
- Monitoring Plan: As indicated above the Corps and applicant may want to consider the utilization of the HGM approach for assessment of high gradient headwater streams. Water quality monitoring (chemical and biological) should be conducted throughout the construction and life of the project. EPA recommends that the applicant provide a detailed monitoring plan including the monitoring sites, reference sites, and triggers to



initiate adaptive management. The monitoring period should extend for a minimum of ten years and should be extended, if necessary, until the replacement of lost functions takes place.

- **Financial Assurances:** EPA believes that the applicant should place sufficient performance bonding on all of the mitigation work to ensure replacement of lost functions should the mitigation fail, or is not implemented, that there is sufficient funding for a third party to complete the proposal (valley fill removal should be incorporated into cost).

### **Cumulative Impacts**

- The analysis should describe the current state of the ecosystem. The affected environment including impacts to the HUC 12 subwatershed from filling of streams and potential impacts to private drinking water wells and other drinking water supplies.
- EPA recommends that the analysis include function and habitat, and the effects of the hydrologic modifications to the HUC 8 sub-basin and HUC 12 subwatershed.
- The impacts of deforestation on water quality, water quantity, and other ecological conditions within the HUC 8 sub-basin and HUC 12 subwatershed should be included in the cumulative impacts analysis.
- These impacts should be compared to the attributes of healthy watersheds in the ecoregion with a goal towards assuring that the sub-basin and subwatershed within which the project is proposed will not be adversely impacted. The Council on Environmental Quality in 40 CFR 1508.7 defines cumulative impacts as “impacts on the environment which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable action.” The cumulative impacts analysis should include all of these types of actions.
- Cumulative impacts analysis could help identify areas within the watershed that may need improvement. This analysis could then guide possible mitigation opportunities that would lead to improvement in the watershed condition.

### **Environmental Justice**

- EPA recommends that the Corps and the applicant evaluate the potential for disproportionate adverse effects to low-income or minority populations as a result of this project. That evaluation should include consideration of impacts to the affected community including impacts to drinking water supplies, subsistence fishing, and effects of blasting, truck traffic, noise and fugitive dust and any necessary steps to avoid or mitigate such potential impacts.
- EPA also recommends that the communities be actively consulted during the permitting process.

